A FACT SHEET FROM

OEHHA

Office of Environmental Health Hazard Assessment

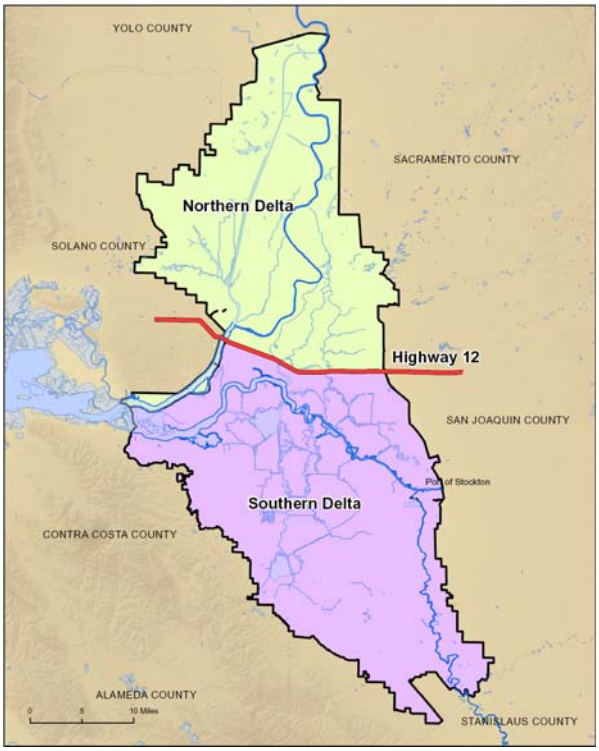
APRIL 2008

DRAFT SAFE EATING GUIDELINES
for fish from the Sacramento River and Northern Delta

Why has OEHHA developed draft "Safe Eating Guidelines" for fish from the Sacramento River and Northern Delta?

Studies of mercury levels in fish and shellfish from water bodies in the Sacramento Valley have shown that many fish and shellfish from this area contain mercury at levels that call for recommendations or "safe eating guidelines" to protect health. A few fish species, including river-run salmon, trout, shad, and clams, contained very low mercury levels and can be eaten frequently as part of a healthy diet. These findings are the result of the Fish Mercury Project, a large study funded by the California Bay-Delta Authority, which in 2005 and 2006 tested fish from Sacramento Valley water bodies for mercury. Other fish studies were conducted in past years by the State Water Resources Control Board, the CALFED Mercury Project, and the University of California, Davis. The data from these studies support the fish consumption recommendations in this fact sheet.

The Office of Environmental Health Hazard Assessment (OEHHA) is responsible for providing fish consumption guidelines for sport fish in California. OEHHA used the studies above to evaluate the health effects of eating fish and shellfish from this area.



OEHHA has issued a draft report with safe eating guidelines for the Sacramento River from just below Shasta Lake to its junction with the San Joaquin River in Pittsburg; and creeks, sloughs, and other water bodies in the "Northern Delta" – north of Highway 12.

The draft safe eating guidelines issued in March 2007 for the "South Delta," including the San Joaquin River from the Sacramento River to the Port of Stockton; and other rivers, sloughs, and flooded tracts in the Delta, south of the San Joaquin River remain in effect, but "Southern Delta" will be used in the future to refer to that advisory.

In addition, the Southern Delta advisory boundary on the north has been changed from the San Joaquin River to **Highway 12** to make it contiguous with the southern boundary of the Northern Delta, as shown in the map.

"Safe eating guidelines" provide information to fish consumers to help them choose the safest fish to eat. The guidelines also recommend how often these fish can be eaten for the greatest health benefits and minimum risk to health. OEHHA recommends that you choose *low-mercury* fish to eat, and *avoid* eating fish that are *high* in mercury. One set of safe eating guidelines applies to women ages 18-45 and children 1-17, to protect fetuses and children whose developing brains are particularly sensitive to methylmercury (the most prevalent form of mercury in fish). A second set of guidelines applies to women over 45 years and men, who are generally less sensitive to methylmercury.

Why are mercury levels higher in some fish than in others?

Some of the major sources of mercury in the environment are volcanoes and coal-burning power plants, which discharge mercury into the air. Mercury in air can be carried worldwide before being deposited into oceans, lakes, and other water bodies. Runoff from old mercury mines or gold mining regions (where mercury was used in the gold recovery process) also releases mercury into waterways. Mercury accumulates in the bottom sediments of water bodies, where bacteria change mercury into a more toxic form known as "methylmercury" that fish take in from their diet. Methylmercury can build up in fish to levels that are many thousands of times greater than mercury levels in the surrounding water.

Fish from some areas that are more contaminated with mercury may have higher mercury levels than fish from other locations. Also, fish that mostly eat other fish, such as bass, tend to have the highest mercury levels. In the Sacramento River, for example, black bass (including largemouth, smallmouth, and spotted bass) and Sacramento pikeminnow were found to have higher levels of mercury than other fish and shellfish species. Other types of fish, such as river-run salmon and American shad, which usually do not eat once they enter the river, and trout, which feed on insects and other small aquatic organisms, had lower mercury levels. Larger, older fish of a species usually accumulate higher levels of mercury than smaller fish from the same species and water body. For this reason, it is better to eat smaller fish of a species, provided they are legal size.

Why should fish be eaten if they might contain mercury or other chemical contaminants?

Fish are a nutritious source of protein and heart-healthy "omega-3" fatty acids. That is why the American Heart Association recommends that healthy adults eat at least two 3-ounce cooked servings of fish each week. To benefit most from fish consumption and avoid health risks from contaminated fish, it is important to eat fish that are low in contaminants and high in the unique "omega-3" fatty acids found in fish. The safe eating guidelines also show which fish have high levels of "omega-3s" that have been shown to benefit the heart, brain, and eyes.

"Omega-3s"are beneficial nutrients found in fish that are good for the heart, and also support brain development.

What are the human health effects from eating fish with methylmercury?

Methylmercury can affect your health if you are exposed to excessive amounts over time. Developing fetuses and children are especially sensitive to methylmercury while the brain is growing. Pregnant women can pass methylmercury to their babies through the placenta. Too much methylmercury can affect the nervous system in children, leading to subtle decreases in learning ability, language skills, attention, or memory. These effects may occur through adolescence as the nervous system continues to develop. For these reasons, a more conservative set of fish consumption guidelines applies to women ages 18-45 and children 1-17 years.

Women ages 18-45 years, including pregnant and breastfeeding women, and children ages 1-17 should carefully follow guidelines for eating fish.

Do commercial fish available from stores and in restaurants contain methylmercury?

Most ocean and freshwater fish contain some level of mercury, so consider your total fish consumption when making choices about how much and which types of fish to eat. The federal government advises women of childbearing age (ages 18 to 45) and children not to eat shark, swordfish, king mackerel, or tilefish, because these ocean species tend to have very high mercury levels. They also say that women of childbearing age and children can safely eat up to two average servings (12 ounces cooked fish a week) of a variety of other commercial fish. Low-mercury fish from stores or restaurants that are high in "omega-3s" are salmon, trout, herring, and sardines.

If women ages 18-45 and children eat the types of sport fish from local water bodies that should not be eaten more than one serving a week, then they should not eat any other sport or commercial fish during the same week, unless they choose very low-mercury fish.

What about fish caught from other nearby locations?

The Fish Mercury Project also studied the San Joaquin River and Southern Delta, where draft safe eating guidelines were issued in March 2007. Most fish in the Southern Delta, except for striped bass and sturgeon, had low mercury levels, and can be safely eaten regularly. You can use OEHHA's contact information and Website provided in this fact sheet to get more information. There are also draft advisories in place for fish and shellfish from the Lower Cosumnes and Lower Mokelumne Rivers, Lake Natoma, and other water bodies in northern California.

Studies by the Fish Mercury Project will provide information in the future on other fish species, including striped bass. Until then, all consumers should follow the restricted guidelines for striped bass and sturgeon that were included in the San Francisco Bay-Delta advisory. See the draft Safe Eating Guidelines below for details.

Are there other chemical contaminants in these fish?

Pesticides in fish and shellfish samples tested from this region were either not detected or at very low levels. The available data for PCBs did not show any locations or fish species that were consistently at levels of concern. The guidelines based on mercury would also be protective for the relatively low levels of PCBs found in a few fish in this area. Further study of PCBs in fish, however, is recommended.

What are the next steps in OEHHA's evaluation?

OEHHA is seeking public comment on the draft Safe Eating Guidelines for the Sacramento River and Northern Delta and the draft report that describes how they were developed. Written comments can be sent directly to Dr. Margy Gassel at OEHHA's address below until May 27, 2008. OEHHA will review all comments before issuing a final report and consumption guidelines. OEHHA staff scientists will also make a presentation and answer questions about the draft safe eating guidelines at a public workshop and training at 10:30 a.m. on April 16, 2008, at the Samuel Pannell Meadowview Community Center, 2450 Meadowview Road (meeting rooms A&B) in Sacramento.

Where can I get more information?

For information on mercury and other contaminants in sport fish in California, or to submit comments, contact:

Office of Environmental Health Hazard Assessment (OEHHA)
1515 Clay Street, 16th Floor
Oakland, California 94612
Telephone (510) 622-3170 FAX (510) 622-3218
Or visit the OEHHA Web site at: http://www.oehha.ca.gov (Click on "Fish")

For information on mercury in commercial fish, contact:

U.S. Food and Drug Administration
Center for Food Safety and Applied Nutrition
1 (888) SAFEFOOD or http://www.cfsan.fda.gov/~dms/admehg3.html

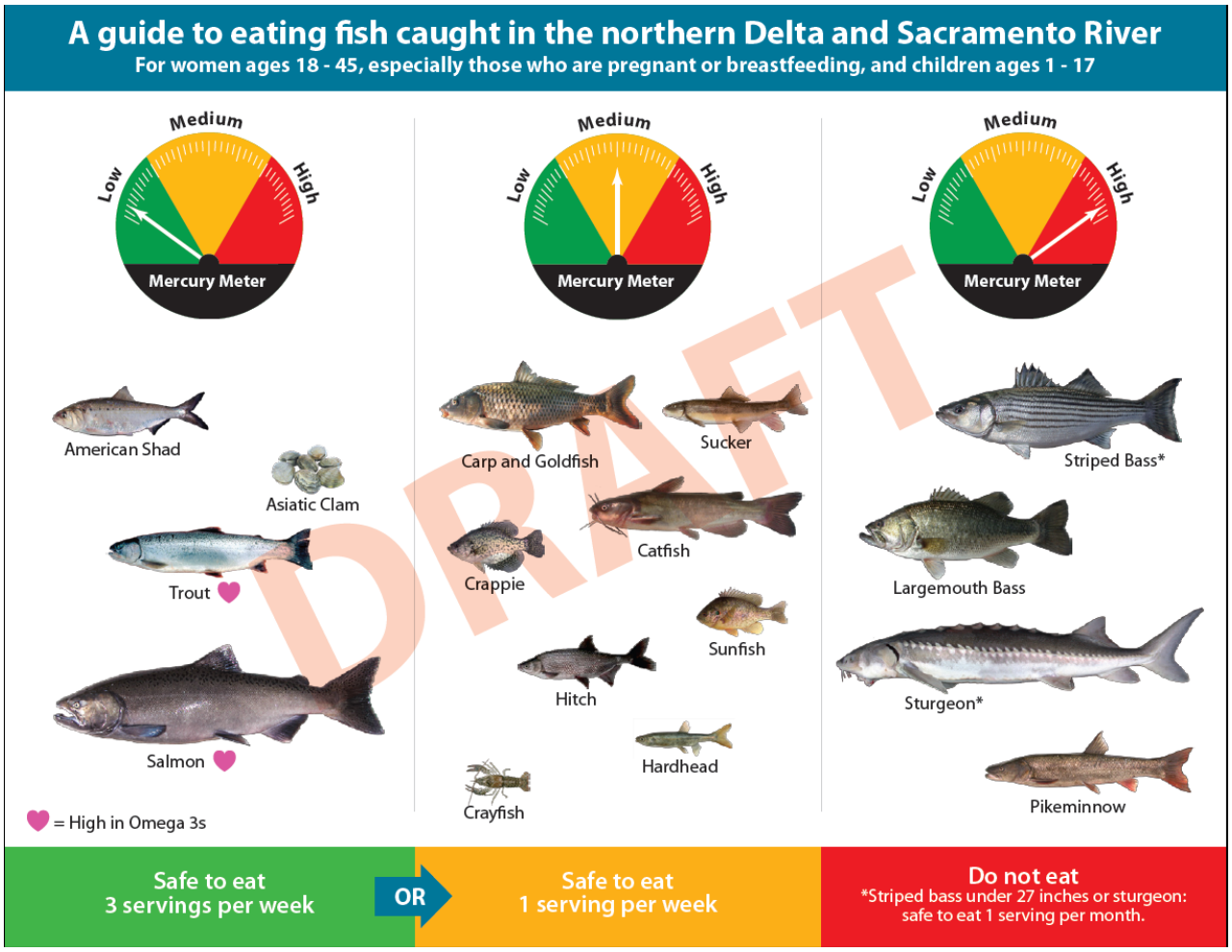
For information on the Fish Mercury Project, visit: http://www.sfei.org/cmr/fishmercury/

DRAFT SAFE EATING GUIDELINES

Based on Mercury in Fish from the

Sacramento River and Northern Delta

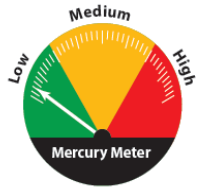
Including the Sacramento River from Shasta Lake to Pittsburg
and other water bodies in the Delta north of Highway 12



A guide to eating fish caught in the northern Delta and Sacramento River

Women over 45 and men over 17

DRAFT



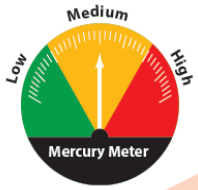

American Shad


Asiatic Clam


Trout ♥


Salmon ♥

♥ = High in Omega 3s




Carp and Goldfish


Sucker


Crappie

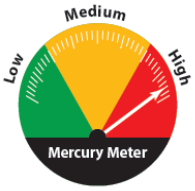

Catfish


Sunfish


Hitch


Hardhead


Crayfish




Striped Bass*


Largemouth Bass


Sturgeon*


Pikeminnow

Safe to eat 1 serving daily OR **Safe to eat 3 servings per week** OR **Safe to eat 1 serving per week**

*Striped bass under 35 inches or sturgeon: safe to eat 2 servings per month.

Do not eat striped bass over 35 inches.

Eat fish. Be safe. Choose wisely.

Guide to Eating Fish Caught in the Northern Delta and Sacramento River

Why eat fish?

Eating fish is good for your health. Fish have Omega 3s that can reduce your risk for heart disease and improve how the brain develops in unborn babies and children.

What is the concern?

Some fish have high levels of mercury that can negatively affect how the brain develops in unborn babies and children.

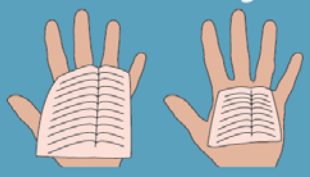
What should I do?

- Use this guide to choose fish lower in mercury and high in Omega 3s.
- Eat smaller fish of legal size. Fish build up mercury in their bodies as they grow.

More fish eating advice for women ages 18 – 45 and children ages 1 – 17

- You can eat 2 servings per week of fish from stores or restaurants. But, do not eat fish caught by you, friends or family in the same week.
- Only one of your two servings of fish per week should be canned albacore (white) tuna.
- When shopping for fish, good choices are salmon, pollock, catfish, tilapia, and shrimp.
- Do not eat shark, swordfish, tilefish, or king mackerel. These fish are very high in mercury.

What is a serving?



For Adults For Children

The recommended serving of fish is about the size and thickness of your hand. Use your hand to measure a serving of fish. Give children smaller servings.

For more advice about what you can do to protect your family from mercury in fish, contact:

OEHHA

http://www.oehha.ca.gov/fish.html.

(916) 327-7319 or (510) 622-3170

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